*Letters addressed to H.R.H. the Grand Duke of Saxe-Cobourg and
    Gotha, on the Theory of Probabilities as applied to the Moral and
    Political Sciences.* By M. A. QUETELET, Astronomer Royal of Bel-
    gium, Corresponding Member of the Institute of France, &c. Trans-
    lated from the French by OLINTHUS GREGORY DOWNES, of the Economic
    Life Assurance Society. London: Charles and Edwin Layton, Fleet
    Street. 1849.

THE theory of probabilities has attracted the notice of so many men of
the first eminence in science, that the works in which their profound specu-
lations and analysis are developed are not found in the hands of many who
yet are daily using their results. Such deep thinkers as Pascal, Leibnitz,
Huygens, the Bernouillis, D'Alembert, Condorcet, and Laplace, may be
easily supposed to have reasoned on such topics in a manner which would
be beyond the reach of ordinary mathematicians. Yet the subjects to
which these doctrines could be applied are so numerous, and of such high
interest, both in moral, political, and social statistics, that a practical and
elementary work, introductory to the great authors we have above named,
could not but be deemed of the highest utility. The well-known talents
and varied acquirements in science and social economy of the learned and
indefatigable author of this book, would lead us to expect that many im-
portant questions would be discussed, and that the illustrations of the
theory would be drawn from some of those recent discoveries and practical
inquiries into the moral and social conditions of countries, which do so
much honour to the present age. We are not disappointed. The exam-
ples of the employment of arithmetical means are shown in the price of
wheat, and the limits of the variation of price, and in the mean and
extremes of temperature of a day at Brussels, with the monthly and
annual variations; of the theory of means, and the probable error, in the
observations taken at Greenwich, for determining the time of the right
ascension of the polar star; of the question whether the arithmetical mean
is the true mean in the measurements of the chests of Scottish soldiers, as
recorded in the *Edinburgh Medical Journal,* and the heights of French
conscripts; of reasoning from particular to general facts, in the blooming of
flowers in different temperatures and degrees of latitude; and so on through
a multitude of useful and novel inquiries in science and art. This method
of uniting the elucidation of the theory with practical examples from the
most recent statistics in various branches of knowledge, has the double
advantage of rendering the study more interesting, and, at the same time,
exciting the student to that application of his knowledge to the affairs of
life, without which he would be a mere vain and useless theorist. This is
an utilitarian age. No man is now allowed any credit for indulging in
idle speculations and closet fancies. The wonderful discoveries which have
been made in the last quarter of a century, are probably owing in a great
measure to that general diffusion of knowledge, and that popularizing (if
we may use the word) of the works of the highest intellects, and bringing
them within reach of the practical man of business and actual experience,
which M. Quetelet has so ably accomplished in the above work for a very
important department of science. The fourth division of this book is de-
voted to remarks on the science of observations, the objects of statistics,
and the methods of combining and checking, and the manner of using sta-
tistical documents both in the various questions of legislation and political

economy; and what is practically of great importance to most of our readers, the means of collecting medical data. At a time when the old prejudice against the use, or rather the abuse, of figures and facts is fast wearing away, the judicious and reasonable view which our author takes of the value of observations properly made and well selected, will be read with great and increasing interest.

The translation of this useful work by Mr. Downes is made in general with great judgment, and in a simple, easy, and elegant style, which permits his version to be perused with greater pleasure than translations generally afford to the reader. Here and there words or phrases may be noticed which probably with longer time for preparation might have been altered into more idiomatic English; such, for instance, as "revoke in doubt," for "call in question" the benefits of science. The "modest" produce of his labours, for the "moderate" produce. "Parties" is translated "parts," when the application is to the "games" of war. "On aurait lieu de plaindre un pays" is translated "he would have to complain of a country;" instead of being rendered "a country would be to be pitied," &c. But these are slight faults, and are only noticed lest they should escape detection in a reperusal for another edition. The work itself is got up in a very superior style; and the printing of the tables and the diagrams in the notes particularly deserve to be mentioned with praise.

Single and Annual Assurance Premiums for every value of Annuity on Single or Joint Lives or Survivors, adapted to any Table of Mortality at $2\frac{1}{2}$, 3, $3\frac{1}{2}$, 4, $4\frac{1}{2}$, 5, 6, *and* 7 *per cent. Also a table for the formation of Half-yearly and Quarterly Assurance Premiums.* BY WILLIAM ORCHARD, A.I.A. London: W. S. D. Pateman, Wine Office Court, Fleet Street. 1850.

To those who are conversant with the subject, the title alone of this work will be no small recommendation. It was a very happy thought of Mr. Orchard's to exhibit values for every possible annuity afforded by any mortality table, combined with the above rates of interest, by giving them for every number from 0 to the number which nearly expressed the value of a perpetuity. Mr. William Wood seems to have entertained the same idea previously to Mr. Orchard; but there is no doubt that the latter came upon it quite independently. Whatever praise, however, is due on the score of the conception, we think the mode in which it is carried out is entitled to still higher commendation. Nothing can be more simple and convenient than the arrangement adopted. We believe it would be scarcely possible to improve upon it. To have made the "regular series," as Mr. Peter Gray would call it, consist of more than three figures, would have greatly increased the bulk of the book, and made references in it troublesome; by limiting the series to three figures this is avoided, whilst the "proportional parts" thus required for the fifth figure, are so arranged as to be got at with the utmost facility. Great care seems to have been taken to attain a perfect accuracy, and every appliance made use of with that object, which considerable mathematical attainments, and great familiarity with the various processes needed, were able to supply. Such tables as these are invaluable, not only on account of the labour which they save, but for their obviating so completely the liability to error which must always present itself in making even the simplest calculation.